SHARP APL on your In-house Computer

SHARP APL

I.P. Sharp Associates

A Private APL System

SHARP APL is best known as a reliable, high-performance public time-sharing service available through an efficient world-wide communications network. This same APL system is also available privately for installation on your in-house computer, with optional access to the I.P. Sharp communications network.

The public SHARP APL service currently supports several hundred users simultaneously, without noticeable degradation in response time. The system we install on your computer is identical to that used to provide our service. You may also lease or purchase any of our application library software for use on your in-house computer.

SHARP APL is available under both MVS and DOS/VSE, either of which can be run under VM.

Today SHARP APL is being used on in-house computers in the United States, Europe, Canada, and Mexico. Here are some important reasons for choosing SHARP APL.

- SHARP APL is a functionally superior and more efficient replacement for other in-house APL systems, and can improve the productivity of both programmers and machines.
- It is an economical replacement for our public SHARP APL service, or other APL services, where usage has grown large enough to justify a private system.
- By providing a planned progression from public to private service, SHARP APL allows for growth on a public APL service without an implied long-term commitment to it.

SHARP APL is a Time-Sharing System

SHARP APL is a high-performance time-sharing *system*, not simply a language processor. Its interface to the host operating system is simple and modular. This approach ensures that few, if any, modifications are required to change from one operating system to another. The time-sharing system consists of five closely integrated parts:

- Supervisor and Scheduler
- File System
- Terminal-Handling Subsystems
- SHARP APL Language Processor
- SHARP APL Shared Variable Processor

The SHARP APL time-sharing system will co-exist with any IBM-compatible system.

Features of SHARP APL

SHARP APL has evolved over a period of 12 years to include many features which have dramatically affected the productivity of the end user and broadened the scope of application areas for which APL is used. SHARP APL is documented in the *SHARP APL Reference Manual.*

Here are some of the features which have established SHARP APL as a superior alternative to other APL implementations.

- SHARP APL is a high-performance time-sharing system with rapid response.
- In the event of a system failure, a crash-recovery facility for both files and workspaces ensures that virtually no work is lost.
- SHARP APL systems can be operational 24 hours a day since normal nightly back-up procedures run while the system is up.

- An integrated file system allows for the use of shared files with complete control over data security and integrity.
- SHARP APL files may contain any APL object and permit existing components (records) to be overwritten with larger components when updated.
- A special data type, called a Package, consisting of a collection of APL functions and variables, simplifies the programming of large systems and encourages good systems design.
- A sophisticated report formatting function allows for the easy creation of complex reports.
- The SHARP APL Shared Variable Processor provides for communication between an APL workspace and other systems, and between APL workspaces.
- "Batch" APL allows for immediate or deferred execution in a workspace to which no terminal is attached.
- An Event Trapping facility permits programmed control of conditions which would otherwise cause an interrupt or an error message.
- The Arbitrary Input and Output features allow APL programs to take full advantage of hardware features in intelligent terminals.
- All mathematical functions apply to complex as well as real numbers, providing new ways to solve problems in many business and scientific applications.
- Enclosed Arrays provide a simple mechanism for combining incompatible arrays and handling them as single APL objects.

Auxiliary Processors available from I.P. Sharp

The Shared Variable Processor not only allows communication between two APL workspaces, but also between SHARP APL and other systems, using Auxiliary Processors (APs). There are several APs available from I.P. Sharp which are upward compatible with their IBM counterparts.

- AP 124X provides full-screen management for 3270 terminals
- AP 126 provides colour graphics support for 3279 terminals
- TSIO provides access to MVS data sets.

APs are also available to sort large APL files, to print files on local and remote high-speed printers, to move data between OS data sets and APL files, and to interface with batch job - entry systems through internal readers and writers.

An AP could be provided to allow access to VSAM files, while another AP could be used to link your current Data Base Management System to SHARP APL.

Worldwide Communications

In 1976, we installed our own private packet-switched network, which today is one of the largest and most advanced in the world. All of the benefits of worldwide communication are available to private SHARP APL customers with the provision of a dedicated IBM 3705 front-end processor, which becomes a node on our network.

The I.P. Sharp Network has the following features:

- It is highly reliable and geared to rapid response.
- It is designed exclusively for the interactive APL user.
- It allows a user to select a particular host computer prior to sign-on.

- It supports all asynchronous terminals.
- It detects terminal codes and speeds automatically.
- It automatically retransmits any packet in which an error is detected.
- It allows remote binary synchronous RJE stations, such as the IBM 2780 and 3780, to connect directly into APL.
- It is interconnected to other commercial networks, including Tymnet, Telenet, Datapac, and Telex.
- It logs information on traffic flow and error rates so that transmission problems can be diagnosed and corrected, often before the user becomes aware of them.

If you do not wish to use the I.P. Sharp network, terminals can also be supported through any IBM 270X emulator or through VTAM. In that case, you arrange for communications for remote users through your own network or a common carrier.

Installing a Private SHARP APL System

An experienced installation team will help make the transition from your present APL service to a private SHARP APL service as smooth as possible. The installation service includes:

- assistance in planning the installation and specifying the hardware,
- all necessary assistance in transferring and converting existing APL files and workspaces,
- extensive on-site training of operations staff and systems programmers,
- continued on-site consultation after installation to ensure that the quality of service is comparable to that offered on our public SHARP APL service.

Managing SHARP APL

Management tools used to manage the public SHARP APL service are available on private systems, and include:

- data collection capabilities and tools for monitoring, managing, forecasting, and tuning system resources and performance,
- on-line access to the billing information for a group of users by any authorized representative or manager of that group,
- on-line access to all billing information by certain privileged users,
- on-line access to one's own billing information,
- a standard account maintenance and billing system.

Long-term Support

A twice-yearly, documented release of SHARP APL will keep your private system current with all enhancements offered on the public SHARP APL service.

Experienced I.P. Sharp operators and system programmers are available by telephone 24 hours a day every day for assistance, advice, and trouble-shooting.

I.P. Sharp assumes full responsibility for ensuring that private SHARP APL systems will operate correctly under any new release of a standard IBM operating system.

Think Sharp

Together, the public and private SHARP APL systems satisfy the needs of users large and small. Call your nearest I.P. Sharp office to discuss your needs.

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Aberdeen, Amsterdam, Atlanta,
Boston, Bristol, Brussels, Calgary,
Canberra, Chicago, Copenhagen,
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